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ABSTRACT

This report is a summary in English of a series of ten volumes entitled "La Television Scolaire du Niger; 1964-71" which was written by the original research and production team of Tele-Niger. The responses of the original team of French experts to the following questions are provided: (1) Who shall be taught? (2) What are the pedagogical objectives? (3) What are the pedagogical attitudes? (4) What are the available means? (5) What does the television medium imply? (6) How can "ruralization" be ensured? (7) What is integration and what are its implications? Additional information is provided relating to the background of the project, its limitations and successes, and several significant events which have occurred following the publication of the initial ten volumes. (Author/STS)

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Télé-Niger:

Adapting an Electronic Medium to a Rural African Context

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INTRODUCTION

The potential reader of this bulletin may ask himself, "Why should I bother with a case of educational television that is 12 years old now, and deals with formal schooling at that? Is not radio a better medium for development purposes? And besides, did not Télé-Niger fail to grow into a national system?"[1] Indeed, radio, nonformal education, open learning systems, participation, mass mobilization, and satellites are the relevant phrases in this "second development decade." The use of ETV for reforming and expanding formal education was the shibboleth of the 1960's.

To take this point of view is to live outside of history and to become prey to each new catch phrase upon which hopes are focused uncritically -- without seriously evaluating yesterday's efforts. Taking an historical perspective on the diffusion of communication technology provides valuable insights into how communication can impact upon perennial problems of change and development. In other words, one can best learn about the future from careful study of the past. To put it in the context of media, one learns about planning new systems from evaluating systems already in operation.

What can we learn from the major efforts to use television for formal education in the past dozen years? How does this help us solve our present and future problems? Before turning to what has been Télé-Niger's unique contribution to our understanding of communication's role in educational change, let us examine briefly some general conclusions derived from other major ETV projects.

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[1] Contrary to rumour, Tele-Niger has expanded in recent years. See the last section of this bulletin for details.

One thing we learn is that the major ETV projects begun in the 1960's are still functioning, and most are expanding. This applies to the systems dating from 1964 in Samoa, Niger and Colombia, to those from 1968 in Mexico and El Salvador and to subsequent systems such as Maranhão's in Brazil and Britain's Open University.[2,3]

This suggests that not only have technological infra-structures of some durability been created, but surrounding sets of institutions for creation, production, diffusion, and reception of programs have also been created, and continue to survive within the educational structures of their countries. The expansion of systems like the Telesecundaria of Mexico the secundary school ETV project in Maranhão, or Télé-Niger has not been accomplished without criticism, re-examination and change. However, the degree of change is relative. We also seem to be finding that the durability of ETV systems often means that, once they become accepted by the educational system, they are less capable of change and adaptation. With the possible exception of Cuba, most educational television systems seem slow to change their directions, and do so only under severe pressure.[4] Acceptance and stability may rest upon bureaucratization and upon a loss of flexibility.

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[2]Summaries and discussion of El Salvador, Ivory Coast, Maranhão, Niger and Samoa as well as general reflections on ETV have been presented in the French educational technology jounal Direct in the last three issues of 1975 and the first three issues of 1976.

[3]Consideration is also due the neglected case of Cuba's ETV system, which has served many educational purposes since 1961. For further information, seen Jorge Wertheim, "Educational Television and the use of Mass Media for Education in Cuba", Revista del Centro de Estudios Educativos. (Mexico, no. 4, in press).

[4]Witness Samoa's problems in changing during its 1973 "reform", as reported in Direct, III (1976) pp. 32-33.

A second thing we have learned is that the technology does introduce change into a system. However, this may not mean a fundamental changes in the school system, much less in the social and economic structures of the country. Anyone, favorable or unfavorable to television, would admit to changes in Samoa's educational system or in that of the Ivory Coast, after the introduction of ETV. It is instructive that in every case where television entered the traditional system there was overt and sometimes strong opposition from teachers, administrators, and parents. In most cases television was gradually if grudgingly accepted, mostly because opponents realized that it might not change the educational system that much anyhow. The changes that were real, opponents accepted as being inevitable. One change which has at least accompanied if not resulted from television is an increase in enrollment and some democratization of opportunity. Maranhão and Mexico were specifically aimed at people who had been previously excluded from regular education, as was the British Open University. However, profound changes in the social, economic, and political structures of countries have not accompanied the introduction of ETV.

It is naïve to believe -- or to promise -- that most kinds of education, whether using technology or not, will accomplish goals beyond the training and certification of a certain segment of the population. If these narrower goals can be accomplished at a cost that is acceptable, then television has been successful at it's first level. This is not to belittle the concrete accomplishments of projects like El Salvador,[5] Mexico or Maranhão, but to say that the benefits are limited to a certain group within each society.

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[5]For a summative view of the projects to 1973, see Mayo, Hornik and McAnany, Educational Reform With Television: The El Salvador Experience. (Stanford: Stanford University Press, 1976).

Finally, we have learned about the costing and planning of efficient communication systems through our experience with ETV. It has become clear that television is not cheap, and that in order to make a television system truly cost effective, ETV might best serve several of the country's development needs. The ETV system in the Ivory Coast, for example, is currently serving both primary formal schooling and adult non-formal education. India's SITE project has used satellite television to reach 2,400 villages for purposes of both formal and non-formal education.

What about Télé-Niger? What lessons does it hold for us with mass education, participation, and rural development now on the agenda? There are many important lessons which the reader will find. Let us point to four.

First, Télé-Niger illustrates the importance of having a clear educational philosophy underpinning the use of the medium. The danger with the current technological thrust (the use of satellites comes to mind) is that the emphasis will remain on the hardware with inadequate consideration to the development of effective software and to appropriate learning processes. Télé-Niger, unlike many other ETV projects, developed a coherent pedagogy that guided the use of the medium and not vice versa. The process by which this was accomplished is worthy of study.

Secondly, Télé-Niger used the television medium in creative ways that placed emphasis upon message quality. Long before Sesame St. persuaded American observers that television could simultaneously teach and entertain, Télé-Niger had developed visual messages that kept the first cohort of students coming back year after year for more. If countries like India, Indonesia, Pakistan and Iran are to use satellite television to reach their mass audiences, important lessons in message quality can certainly be taken from the history of Télé-Niger.

Thirdly, Télé-Niger may teach valuable lessons in terms how not to plan future technological systems for education and development. There is a danger in being designated an "experiment", as was the case with Télé-Niger. Although this status allows freedom from interference by education authorities, it also means that, no matter how good the results, the "experiment" can always be quietly terminated by a government. Also, experimental projects may suffer from ideal conditions that cannot be replicated when expanded to the real world. Thus, positive results may not generalize to an expanded audience.

Finally, Télé-Niger may not be a viable model for future systems because of its heavy dependence on French technical assistance. Today, few countries would accept such a high degree of foreign input. India's recently completed SITE project demonstrates that a complex project can be organized and run efficiently by a less developed nation, once sufficient government backing has been given in order to mobilize local resources.

As we move in the late 1970's toward planning more informal methods of educating people in open learning systems, toward incorporating masses of rural people into education and training schemes, and toward using large and sophisticated technologies such as direct broadcast satellite television, we will find that, the better we have understood experiences like Télé-Niger, the greater our chances will be for success.

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October, 1976

I

In 1963, the government of Niger asked the French government for assistance in implementing a pilot project of educational expansion and reform using television as the method of diffusion. The situation from which this demand arose, the reforms which were desired, the justifications for using television, and the course of the project over its first seven years will be discussed in the pages which follow.

In essence, this report is an English summary of a series of volumes entitled La Télévision Scolaire du Niger: 1964-1971,[1] which were written by the original research and production team and were published in France by the Association Universitaire, pour le Developement de l'Enseignement et du Culture en Afrique et à Madagascar (AUDECAM). Although this report draws heavily upon the Rapport Général, the other volumes in the original French series were also read and consulted during its preparation. The facts and opinions expressed here can all be found in the French volumes.

However, the present summation represents a drastic reduction from the 1500 pages of the 10 French texts, or even from the 244 pages of the Rapport Général. What may have appeared as a minor comment or criticism in the context of the original documents takes on a very different emphasis if restated in the context of this very brief report. The selection of which facts and opinions to include in this English summary is, of course, subjective -- and quite possibly the original authors would have chosen to emphasize different aspects of the project.

Nonetheless, the present report represents an honest attempt to offer English readers an overview of Télé-Niger -- a major experience in adapting an electronic medium to a rural African contest. It is hoped that the problems encountered and the solutions devised will have some relevance to current rural development projects applying a range of media to a range of problems.

BACKGROUND

After having gained political independence from France in 1960, the leaders of the Republic of Niger faced the awesome task of transforming their national character to match their new political status. Like other nations, Niger aimed to include a judicious preservation of the qualities of their traditional cultures as well as an acceptance and incorporation of the scientific and technological advancements of the modern world. Parallel to other countries who have faced such a task, Niger met one of its more difficult struggles in the attempt at economic and political self-determination on the home front -- the struggle of encouraging a reluctant and fearful populace to meet with openness and courage an uncertain future offering rapid change.

Education has long been considered an important step in fostering this attitude of adaptability in people. Starting with this assumption, African Ministers met under UNESCO auspices at Addis Ababa in 1961, and resolved to attain 100 percent school enrollment by 1980. In 1961, only five percent of Niger's school-aged children were enrolled. The goal which Niger's government proposed to reach in a mere 20 years seems, in retrospect, to be clearly impossible. That it was attempted at all points to the great emphasis which was given to the role of formal education in national development during the early 1960's.

The magnitude of this task of providing primary education for all the children of Niger was staggering. Moreover, the close look given to the existing primary schools by Nigerien[2] officials in 1961 revealed serious problems which made expansion without reform unthinkable.

Of course, Niger's children were not at all "uneducated" but merely "unschooled." As with all traditional cultures, the people of Niger provided a rich natural education for their youth. But again, as with all traditional cultures, this education is one which has been crystallized by generations and generations of

survivors in a relatively unchanging and closed world. However, such traditional wisdom can hardly be expected to provide the basis for adequate adjustment to the abrupt intrusion of the 20th Century.

On the other hand, formal French-style schooling had become the model for the Nigerien educational system. Seated quietly at a desk with feet on the floor, paper angled at a proper degree and pencil neatly beside, listening attentively and unquestioningly to the conjugation of être in all its tenses, Niger's students were hardly being prepared adequately for rapid adjustment to unspecified roles in an uncertain future. If interference with traditional African education was necessary, adaptation of French educational methods was equally important.

Indeed, such formal schooling as existed in Niger in 1961 could hardly be considered successful even on its own terms. Of the five percent of the school-age population who entered school, two percent would never complete their primary education. Another two percent would consider their primary diploma a passport to the world, ending their educational careers at this point. A mere one percent of the total population of children would pass from primary into secondary schools. Taking into account drop-outs and numerous cases of repeated grades, an average of 26 student years were required for every primary school diploma issued. These statistics alone point to intolerable inefficiencies in the school system which, if uncorrected, could only have been magnified by an expansion of schooling.

Even if it had been possible to construct enough classrooms to expand primary education to reach 100 percent of the children, the number of qualified teachers and semi-qualified monitors which existed (or which could have been rapidly trained) would not have been sufficient to staff these additional schools. And the money needed to train and pay such teachers would also have exceeded any realistic education budget.

By 1963, the government of Niger was well aware of these obstacles, and revised its initial plans. The government then proposed a preliminary goal of reaching 30 percent of the school-age children by 1973 (still six times the number of children enrolled in school in 1961) with a new type of schooling which would correct certain existing inefficiencies and imbalances in the school system. Of these inequities, one of the most important was the disproportionate representation of male children. In 1963, the low percentage of female children attending existing schools belied the important role played by women in the economic and social structure of Niger. Developing a new program of education which failed to ameliorate this situation would overlook a vast resource of human potential. Similarly, provisions were to be made which would balance the existing inequities in the number of available schools between favored cities and disfavored countryside, and even more problematical, which would provide equal opportunity for schooling to the children of nomadic parents as well as to children of villagers. In all events, this new schooling was to bridge societal gaps, not augment them and provide links for the separate subcultures and subgroups in the form of common language (French, the official language of Niger), common experience, common opportunity, common identity and mutual understanding.

At the same time that this new type of schooling was to correct injustices in the existing system, it was also to resolve inadequacies of the existing curriculum, tackling both problems of content and pedagogical method. Plans included raising the minimum qualifications for teachers, in order to increase the quality of classroom instruction and to decrease the dropout rate. A program of study was to be developed which would provide practical skills training for those students who would not continue into secondary school. In addition to developing a level of skills and knowledge, this new type of schooling was also

intended to turn out children who would be willing to stay and work on the land.

By 1963, government officials in Niger foresaw that their nation would remain primarily agricultural. Therefore, it became imperative to prevent a massive "rural exodus" -- that phenomenon which often accompanies the schooling of a rural population and through which traditional values and life styles are challenged and rejected. Schooling which gives knowledge of a "better world" without spending equal time clarifying the value of traditional customs may create dissatisfaction with the prospect of working the land as the generations in the past have done and may push the schooled youth toward migration to urban centers.

Rural parents in Niger have expressed to interviewers simultaneous fears and desires regarding rural exodus. They fear migration by their own children, for which it comes a rejection of their parents' own way of living. They have also seen, or heard about, other young people who have left the villages only to return disillusioned by both urban and rural ways of living. Yet these same parents also express desires regarding the financial security offered by successful urbanized offspring.

Despite the personal advantages which might accrue to a family having one or more children employed in the city, the economic benefits to the country as a whole were seen by the government as being best served by educating a new generation of farmers -- a generation willing to work the land and to adapt to the current environment yet open to innovations which might eventually modify the traditional life style. The government sought a new generation at once comfortable with the changes that rapid development would bring yet still adapted to a rural life in Niger. Via such children, a bridge between city and countryside, between traditional culture and modern development, would be made.

The demand for television arose from the belief that it offered the highest possible return on modest investments of capital and human resources. Faced with the impossibility of training enough teachers to reach all the potential students in their country, the officials felt they had to rely on the limited number of qualified teachers which already existed and artifically stretch their impact via mass-media diffusion. Of the available media, only television appeared to possess the simultaneous qualities of instant comprehensibility for the students (due to the realism of the sound and image as compared to other media such as radio or print) and ease of utilization by semi-trained monitors in the classroom (compared to the more complex mechanical skills required by film equipment, taperecorders, and slide projectors, or the more complex lecture skills required to use flannel boards or other simple graphic displays). Particularly in that era, when television was a favored medium, this proposed solution arose naturally even though Niger herself did not have qualified personnel to direct such a project. The government realized the necessity of importing the high-level staff for this project, and tried to counteract these dangers by specifying that the system should be developed for eventual take-over by Nigerien nationals.

THE RESPONSE OF THE ORIGINAL RESEARCH TEAM

Who shall be taught? Within the framework of the specific directives issued by the government of Niger to the initial French research team, alternative courses of action seemed possible. An initial decision specifying the target audience was imperative. One possibility was launching a mass literacy campaign which would provide primary education to adults as well as children. A second option was to create "pre-school" training for children with the teaching goals lying completely outside those covered by the formal school system. However, review of the options led the team to choose an alternative form of elementary education for children which held some of the same teaching goals as the formal school system while ameliorating the deficiencies of this system.

The decision as to the minimum age for admission to the television school was dictated by a maturational concept in the traditional culture of Niger: the notion of lakkal." "Lakkal" refers to a combination of qualities manifest in a child's behavior by the time (s)he reaches approximately seven years of age. Starting at the time the child has walking and talking under command (that is, between three and four years old) until the child begins the traditional forms of instruction which will allow him (her) to be initiated into the society, his(her) relatively independent actions are being scrutinized by the adults in the community. These adults are looking for signs which indicate intelligence, savoir-faire, good memory, adaptation to, and internalization of social norms. From the point of view of the parents, this three to four year span is not so much a training period, but rather one of gradual revelation as to whether God has blessed their child with those qualities which will bring honor to the family. To be sure, the child must be well brought up for the presence of "lakkal" to be conveyed. Knowledge of the social world and its rules of etiquette, knowledge of the physical

world and how to utilize it, knowledge of and proper attitudes toward one's own rights and obligations -- all must be conveyed to the child by the family.

Of utmost importance is the child's own responsiveness to the guidelines which are presented. At the youngest age, signs of "lakkal" can be found in the child's actions relating to the concrete physical world. Does the child show understanding that there are certain places (s)he can not or should not go and certain things that can not or should not be touched? The child's predisposition to imitate adult activities is a later indication of the presence of "lakkal." Recognition of the existence of certain societal rules and a readiness to conform to them serves as still another landmark. Finally, the child must develop a consideration for others, knowing his (her) own place in relation to others in the family and community. Obedience and respect, politeness and tact, knowledge, curiosity, and eagerness to learn more, all these are characteristics of the model child blessed with "lakkal."

Until the child is seven, an opinion is not rendered as to whether (s)he possesses "lakkal" because the child is not yet considered to be fully responsible. But after the child is seven years old, the adults decide definitively, on the basis of an impression arising from a careful surveillance of these first years of life, whether or not "lakkal" is present. In the opinion of the adults, if a child has not shown signs of "lakkal" by the time (s)he is seven, (s)he never will. As such, the opinion given at this time is final -- and once rendered, attention is diverted to younger members of the family. The child is no longer placed under the pressure of constant surveillance by adults.

Because it is such a pivotal concept in the child's development according to traditional thought in Niger, the relationship of "lakkal" to the formal learning situation proposed

by Télé-Niger had to be explored. Preliminary testing of one class of children, well known to the researchers for nine months prior to their entrance to school, indicated an imperfect relationship between presence of "lakkal" and excellence according to European standards of intelligence. However, children who were known in their community as having "lakkal" rapidly became the best students in the class once this group of children began the program of televised education. This affirmation of the cultural criteria for readiness to be educated was underscored by the performance of children in the two pilot classes of the television school which were conducted in Niamey in the first year of the project. At this time, children between the ages of six and nine were recruited to attend. It soon became apparent that the youngest ones had a great deal of difficulty adapting to the classroom situation, either because of a general lack of maturity or because of the tension they were currently experiencing which resulted from the fact that their promise as a valuable member of their social group was soon to be definitively judged by their elders. These pressures to make plain their conformity to community standards may have made it impossible to adjust easily to the demands of a totally new type of social situation in school. In any case, it became apparent that the "age of lakkal" should be meshed with entrance to television school to optimize the pupils' adjustment and responsiveness to the demands of this new type of learning situation.

What are the pedagogical objectives? In defining and elaborating the objectives of this educational experiment, "learning to learn" emerged as the pivotal concept in this system of education. In one way or another, all the materials presented and activities planned had to serve this end. While the acquisition of certain basic knowledge (such as learning the vocabulary and grammar of spoken French, the orthography and spelling of written French, basic arithmetic calculations, and the like) was critical.

this knowledge was never to be viewed by the staff or the pupils as the goal in itself. Rather this general information was to be presented as means for rational thought about real problems. For the planners, then, pedagogical objectives could not be formulated in terms of certain bits of information to be learned but rather in terms of the emergence of certain mental attitudes in the pupils. As stated in the summary report of this project, these objectives were:

a) To aim at intellectual development (primarily mental), without ever letting the mechanisms needed to attain this goal take priority. Reliance on learning procedures, necessary as this may be at the onset, must be conceived in such a way as to be eventually surpassed.

b) To give the taste of the type of study which integrates thought and action from the start.

c) To develop students who are capable of and interested in investigating the sources of all types of knowledge.

d) To form an attitude of responsiveness to understanding and discovery rather than rote memorization of prefabricated ideas.

e) To prepare these children to understand their environment and its needs in a way that, without rejecting it out-of-hand, they can sense the power that they have to influence it.

(Rapport Général, p. 28-29)

Added to these pedagogical objectives were a series of research questions revolving around the use of television to accomplish these goals. Specifically, the project hypothesized that it could stimulate the desire to learn using the visual means provided by television. This would be accomplished in a classroom situation directed by monitors who themselves had only a bare minimum of training. As a result, success in this enterprise would be directly attributable to the power of television to organize the school day and present the pedagogical content. It was also predicted that the French language could be satisfactorily taught via television to children who had no previous experience with the language. Finally, the system of televised

education was an experiment devised to reduce significantly the dropout rate which plagued the formal school system.

What are the pedagogical attitudes? Upon initial consideration, there appears to be an inherent contradiction in these two sets of pedagogical objectives. The first, and primary, set of objectives cited revolves around the concept of "learning to learn." The concept implies that the learner play an active role in determining the course of the educational process. Yet, the second set of objectives, which revolves around the use of television as the pivot of classroom proceedings seems antithetical to the first.

Needless to say, the methods of education employed by this project could scarcely be "active" in the sense of Montessori or Summerhill. However, the initial research team felt that they could assume a similar pedagogical attitude as these forms of active education even if they were employing a teaching medium which organized the school day into a rigid schedule and physically distanced the teacher from the pupils. It is of utmost importance to see how the principal aspects of an active education found their expression in Télé-Niger.

Critical to the concept of active education is an overt respect for the child as a person. If the child were considered like an object, merely a receptacle to be filled with knowledge, the teacher would assume total responsibility and authority for the learning which takes place in the classroom. But active education demands that the child be recognized as an equal participant in the learning process. Active schooling should encourage the child's expression: oral, physical and emotional. As it turns out, the television medium is particularly well suited to this goal. The natural response of these African children to the lively material presented on television was identical to the responses of children around the world: hand clapping and rhythmic body movement to the music, squeals of

joyous recognition of familiar objects and beloved characters, shouts of warning to portrayed situations of danger, sincere answers to questions addressed to them from the screen, and spontaneous reenactment of skits at the end of the broadcast. With few, if any, preconceptions about appropriate classroom behavior, these children were uninhibited in their response to the television in the classroom. Since the television teachers were not physically present in the classroom, they could never be critical of the behavior of the pupils or punitive in response to student activity. In these respects, the screen remained neutral. Moreover, training of the classroom monitors explicitly rejected interference unless the outbursts threatened to annoy other pupils or completely disrupt the progress of the television lesson.

Respect for the child as a person likewise demands that the child's own initiative be encouraged and responded to. In the non-punitive atmosphere of the television classroom, the child had virtually complete freedom to innovate. Numerous examples of such innovation can be cited as the following: the removal of the camel's hair from paintbrushes and utilization of an unbristled shaft for drawing (thus transforming an unfamiliar instrument to make it resemble a familiar one). While the television teachers could not be immediately and personally responsive to the needs of individual pupils (this function was to be fulfilled by the monitors), a regular television program based on written questions from the students addressed to the television teachers was initiated during the third year of the television school.

An active education also requires that the student learn to observe and study the world around him (her). Weekly class walks served this function. Along with the monitor, the children visited different spots in their immediate world, gathered materials for their classroom projects, and interviewed different

people in their village. In short, they were encouraged to explore their own world and to formulate their own questions about it.

The third characteristic of an active education is providing the child with a liberal proportion of free time for independent growth and exploration. This directive was less readily fulfilled by Télé-Niger due to numerous constraints. In the first place, the broadcasts came at regularly scheduled intervals throughout the course of the school day. An individual student could theoretically continue a preferred activity during the course of a broadcast, as long as it was non-disruptive. In essence, however, this meant foregoing a television lesson. Secondly, shortage of some materials, and a restricted lifespan of others due to environmental conditions, limited the pupils' freedom of choice. In general, several suggested activities to be used alternatively or conjointly at the discretion of the monitor were provided in the directives for utilization of each day's broadcasted material. Student interest which was provoked by the programs had to be channeled into certain activities which were more or less determined by the materials currently on hand.

The final method used to promote active participation by each student in the process of education was encouraging the development of a classroom spirit. Pupils were allowed to follow their natural affinities when deciding where to sit, in this way allowing the spatial arrangement of the class to parallel its social reality. Students were not discouraged from copying from one another, in this way reinforcing the notion of communal problem-solving rather than emphasizing individual success or failure. Working groups for projects were allowed to evolve naturally with a caution to the monitors to aim for heterogeneity of ability within each group in order to enhance the possibilities of self-criticism and self-correction. Theoretically, the social

structure of the classroom would approach that existing out of school. While the monitors readily subscribed to these ideas of classroom conduct during their training, the daily problems of pupil-teacher relations soon provoked strong opposition to them and even open rebellion against them. Monitors quickly reassumed the opinion that the pupils would learn only when subjected to extreme and unconditional discipline. The task of maintaining an open classroom without having it disintegrate in chaos lay in the hands of the monitors. Therefore, it became imperative to convince them that the apparent smoothness of a class presided over by an all-powerful master could never result in promoting the type of learners which were the ultimate goal of Télé-Niger. Through careful counseling of the monitors, communication amongst themselves, and trial-and-error experience, most of the monitors eventually adopted in practice the attitudes they originally accepted in theory.

What are the available means? In deciding what personnel and what technical facilities were needed for the project, consideration had to be given to eventual assumption of total responsibility for continuance of the system by Nigerien nationals. It would have resulted in a severe deception to employ the unlimited production resources commonly available in a country such as France to program the pilot project of a country such as Niger. It was decided early in the project to import the bare minimum of high-level personnel, staffing many of the technical and all of the teaching and classroom openings with local people. Moreover, program production mimicked what were assumed to be the most likely future conditions: entirely local, entirely videotaped, with a minimal crew, in the relatively isolated African context. In certain respects, these conditions limited program development. For example, the initial French team sorely missed library materials to help them formulate their theoretical goals and to translate them into behavioral objectives and broadcast material.

However, in other respects, these conditions stimulated efforts to squeeze every possible pedagogical advantage out of the available means. Specifically, the team developed the notion of a "pedagogical spectacle" in which the full spectrum of production techniques offered by television were systematically exploited toward the goal of education.

Production was initially accomplished in a single studio with three compact cameras and a single videotape recorder plus a few other pieces of video equipment. Although space was severely limited, several small workrooms for such activities as creating graphics and animations, developing photographs, and assembling scenery and props were also provided. In 1966, a small transmitter with a broadcasting range of 40 kilometers in one direction was added. By 1967, the number of sets had been increased to four (three indoor and one outdoor) with accompanying augmentation in the number of recording devices and available office space. The total cost for installation of production and transmission facilities equalled approximately $1.2 million. Production costs for each 14-minute program averaged about $800. The cost of installing equipment for one reception point was about $600.

The equipment for each television class included two battery operated television receivers (54 centimeter screen) mounted on swivel stands at a height of 80 centimeters. In addition, each classroom had a blackboard, a felt board, a table and chair for the monitor, a compartmentalized box for organizing small teaching materials, five wooden tables, 10 wooden benches, and mats for sitting on the ground. The pupils each had a slate, daily rations of chalk and paper, a box of pebbles for counting exercises and a notebook. Collectively, there were colored pencils, paintbrushes, scissors, crayons, a ball, a tambourine, and clay. Teaching aids available to the monitors were the daily student worksheets provided by the production center, felt

figures which they themselves made during training sessions, a set of geometric forms and a card game, both made of Bristol board and utilized in "pre-school" exercises (cf. Summary Report, pp. 45-48).

The classroom building itself was of simple construction with the sandy soil serving as the floor. Construction of a shelter for use as a workshop area was often accomplished by the monitors and pupils themselves. The simplicity of the classroom was a virtue in itself. In the first place, it provided an atmosphere of familiarity for the children who could act (i.e., sitting on mats on the ground) in the manner to which they were most accustomed. The naturalness of the setting predisposed the ultimate goal of integrating school and environment. Such simple techniques as approaching orthography by having the children trace lines in the sand provided bridges between their daily experience and the new experience provided by schooling. The purpose of this simple and natural setting was to promote a rapid adaptation of the African child to the school situation, but even more importantly, to facilitate transference of their school learning back to their daily life.

The original staff consisted of 29 people including the four Nigerien television teachers, two Nigerien classroom monitors, and 12 technical assistants (four French, eight Nigerien). By 1971, the staff had increased to 115 people including the addition of 40 technical assistants, 20 classroom monitors and two successive hirings of television teachers. This represents an increase from the original two experimental classrooms to 22 classrooms and an increase from 20 to 80 broadcast lessons of 15 minute duration weekly (20 for each of the four years of the primary curriculum) with accompanying worksheets for the pupils and additional broadcasts for the classroom monitors.

In essence, the television teachers, all Nigeriens, served as the pedagogical core of the project. Naturally, they were

among the best teachers available in the existing education system at the outset of the project -- but it was as an alternative to that very system that Télé-Niger was conceived. A past history of teaching in the established manner, and a possibility of future re-entry into that system continually threatened to undermine the total commitment required of the television teachers in order to meet the rigorous demands of the production schedule. This also created a personal dilemma which hindered their evolution from actors and actresses in the programs to creators of programs. However, the recruitment of new teachers helped to move the original group of television teachers more clearly into the production domain. As this occurred, more complete belief in the stated goals and methods of the project developed among the initial television teachers.

The selection of classroom monitors was made from among a group of young adults who merely possessed a primary school diploma. Preference was given to those who seemed to possess the qualities of stability, rapid powers of adaptation, striving for intellectual perfectability, interest in working with children, understanding of the cultural values in the target areas, and willingness to live in the country. While none of the monitors had previous teaching experience, their pre-service training had to be completed in a two and one-half month period. This was made possible by a type of training which employed an active method -- learning by doing -- similar to that which the monitors were to promote in the television classroom.

The brief pre-service training was followed by regular in-service training which encompassed:

(a) detailed written teaching guides for each school day,

(b) 10 to 20 minute broadcasts each morning before school opened which quickly reviewed the day's material and called attention to possible methods of utilization and probably student misunderstandings, and

(c) twice-weekly broadcasts aimed at continuing the general pedagogical development of the monitors.

In addition, the progress of each monitor was aided by classroom visits from a counselor who maintained a non-intervening and non-judgemental attitude (much as the monitors themselves were to remain non-intervening and non-judgemental with their charges). Free access to this counselor and other members of the pedagogical staff was maintained by reserving one morning each week for consultation at the station in Niamey and by regular dinner meetings. Finally, semi-annual training sessions of 7 to 10 days duration tried to provide practical answers to the most prevalent problems and concerns of the monitors.

These young monitors developed quite beyond all expectations. They endured the doubts of the communities in which they lived and worked, which arose principally from their young age and non-disciplinary attitude. They held up under a rigorous schedule of teaching duties. They coped with the experimental nature of the program. They evidenced an openness, a readiness to admit their own weaknesses, and a surprising ability to overcome the problems which arose in the conduct of the television classes.

One of the most disconcerting problems faced by all the Nigerien personnel was the uncertainty of their positions due to the experimental nature of the project. Particularly the monitors and technical assistants developed highly specialized skills which carried little marketable value outside of the context of Télé-Niger, especially since their on-the-job training led to no certificate of achievemnet attesting to their qualifications. Moreover, with perfected skills came the assumption of more and more responsibility without compensations in the form of salary advancement. Despite extremely demanding working conditions, salaries of these personnel remained very low.

What does the television medium imply? Since television broadcasting was not present in Niger prior to this experiment, few public expectations existed regarding either the nature of

television programming in general or educational television in particular. The novelty of the medium in this context carried with it a freedom to innovate. Indeed, the typical pedagogical situation of student-teacher dyad was reformulated as a pedagogical triangle: television-student-monitor. In this triangle, television provides the program of learning -- its schedule and context; the monitors maintain two-way interpersonal communication with the pupils, correcting individual misunderstandings of the content and providing situations for its utilization; the pupils participate actively in the total process by observing the programs and reacting to their content via games, exercises, activities, and personal expressions.

The medium itself offered specific resources to the pedagogical goals of Télé-Niger. A primary advantage offered by the television medium is the concreteness of the message it carries. Truth is highly esteemed by the Nigerien culture -- and truth is defined by these people as knowledge which is reinforced by what can be seen. The realism of the moving image imbued the content of the message with a truth value unattainable by words alone. In point of fact, the image reigned supreme at the beginning since the spoken words were all in French, a language with which the children had no previous experience.

One possible drawback to the use of television was the fear that the image of Africans who speak a foreign language moving inside the limits of the television screen might cause so much anxiety that learning would be rendered impossible. In reality, initial fear of television was displayed by a very small proportion of the youngest children and rapidly disappeared. In a multi-lingual nation, the phenomenon of meeting an African who speaks a language unknown to the child is quite common and, in itself, no cause for fear. Care was taken to ensure that the children saw on the screen only Africans, with familiar accents and gestures. This helped to assuage any potential anxiety

about the strange machine in front of them. Familiar music and rhythms were relied upon to attract attention, to encourage the child's bodily response to the medium and to make the classroom situation comfortable. The initial programs were carefully designed so that primary consideration was given to clarity and simplicity of the message rather than to aesthetic qualities. Throughout the broadcasts, extraneous props and cluttered backgrounds were omitted so that the critical objects or situations could be presented unambiguously. Such simple techniques as close-ups, angle shots, cut aways, or superimposed arrows were initially avoided and introduced gradually in a context which dramatized their meaning. For example, a close-up was introduced by showing a person in the distance who gradually approached the camera until his face filled the entire screen. Thus, the child was carefully taught how to read the televised image. Likewise, the foreign language which was employed exclusively on the screen was introduced by isolating objects and situations while repeating the same words. Because of the dynamic and dramatic potentials of the television medium, the acquisition of a living language could be effected with maximum clarity in a minimum amount of time.

A related concern was that the television instructors would be perceived by the children as too removed, mechanical, or imperturable to be effective teachers. Since classroom direction was to be maintained by young monitors having minimal education, it was imperative that the television teachers reach the students directly, without the need for subsequent interpretation or explanation in the classroom. By necessity, then, the television teachers had to command the child's attention and had to provide the motivation to engage in the subsequent utilization activities suggested by the monitor. By contrast to typical schooling, the "television spectacle" accomplished this very aim while relying on the same means as traditional education: observation

by the child in a nonpunitive setting. Without becoming mere entertainment, the programs themselves became "pedagogical variety shows" -- intriguing and instructional at once. Silence and immobility were of little value to the television classroom as the children were not to become passive receivers but rather active learners. Television broadcasts tried to incorporate the rhythms of the child's life (as in the use of familiar music) and thus to provoke a spontaneous reaction from the child. But there also had to be time somewhere in the school day when the television was completely silenced and the child was free to manipulate materials and ideas for him (her) self. Incorporated into the program of study were manual activities, games, skits, written exercises, and the like which derived from the televised teaching and which provided means for making the teaching part of the child's life experience.

Television allowed the producers of the broadcasts to depend on a large variety of different approaches, utilizing conjointly or successively, a multitude of audio-visual techniques from the most simple to the most complex. The variety of visual techniques offered by television facilitates repetition of the same content without loss of attention. Television is perfect for a pedagogy of theme and variations. The value of this "diversified repetition" was recognized by the producers of Télé-Niger and eventually was extended to become a well-formulated pedagogical approach. Under its rubric, certain images came to be treated as ideograms, used again and again to evoke the same meaning. This redundancy of image provided a visual means of integrating the broadcasts. An object which played a supportive or background role in one broadcast became a main focus in a later broadcast. Moreover, very brief "commercials" which repeated material to be learned by heart (such as multiplication tables), or anticipated the presentation of new concepts, replaced the fixed image logos traditionally used as filler between

broadcasts. Far from demanding the pupils' complete attention, these spots provide a low-key means of increasing familiarity with some of the necessary elements of the primary program. They helped, along with the method of diversified repetition, to avoid an overloading of any one broadcast with too many new concepts.

The conception of each individual broadcast as one small, completely self-explanatory component in an integrated network of complex learning represents an adaptation of programmed instruction techniques to a mass medium. Education diffused by a mass medium moves with unrelenting pace unaware and unmindful of individual needs. There was no mechanism in Télé-Niger which would allow for backtracking or review for an individual pupil or class. But by following the principles of programmed instruction when planning the broadcasts, the negative effects of missing or misunderstanding a single broadcast could be reduced, if not eliminated.

In programmed instruction, a specific pedagogical goal is analyzed into an inventory of necessary concepts and behaviors which are then reorganized into a progression of minute steps. Each broadcast was conceived as one of these steps, a unity in itself, so clearly presented as to be immediately comprehended, and yet simultaneously part of a larger progression toward a single idea. In televised programmed instruction, this step-by-step progression by gradual accumulation of the subcomponents of a unitary concept takes the form of a spiral staircase. The broadcasts double back upon themselves, reiterating elements which have been previously presented, while simultaneously pushing forward. While understanding of each sub-element as represented by a single broadcast is crucial to the evolution of the concept as whole, the student will be given more than one chance to acquire all the necessary sub-components. Conceived in this fashion, missing a day of programming or misunderstanding a broadcast lesson is recoupable without external intervention.

Programmed redundancy assures that each critical sub-element is given ample opportunity to be perceived and acquired.

In many ways, schooling via television paralleled traditional African education. Methodologically it was far more similar to traditional African education than to formal schooling. However, in several respects, traditional education and televised education diverged, the most important of which is in their respective attitudes toward the child's verbality. The traditional culture values the child's silence. Culturally, the good child learns by carefully watching what is done and then repeating it. Because from the time (s)he is very young, (s)he participates in the ordinary daily activities of community life, traditional African education is less a theoretical training than a practical one. At the same time that the child shares the same activities as the adults, (s)he still reamins on the margins of the community's social sphere. The child's all encompassing desire is to be a full-fledged member of the society. To this end, the child readily submits to authority and directs all attention toward acting like others without questioning the roots of the custom or the reasoning behind the activity. The importance of an oral interchange for the transmission or cultural knowledge does not come until adolescence or young adulthood, after the child has been accepted into the society. By contrast, the television school cultivated the child's spontaneous verbal expression. In the learning of the French language, much practice revolved around the technique of posing and answering spoken questions. The children jumped on this new approach to the world as one that can be questioned, most likely due to the total absence of questions in the cultural environment. As a technique, questioning rapidly spread from being a method of language acquisition to becoming a means of formalizing the child's own curiosity about his (her) environment. It is exactly this intellectual appetite, this desire to know and willingness to question, that Télé-Niger hoped to inspire.

How can "ruralization" be ensured? Up until the beginning of the third year of programming, the official directives governing the project remained in an unspecified form: i.e., to create a system of televised primary education which would develop individuals capable of participating in, and adjusting readily to, the development of their country. By the fall of 1967, this objective was more precisely formulated by the government toward limiting the course of study to four school years and toward "ruralizing" the teaching.

In the course of interpreting this directive, it first became clear what was not meant by "ruralization of teaching." It did not mean turning Télé-Niger into an agricultural school. There had been some discussion as to whether the economic difficulties suffered by Niger might not be more rapdily solved if the youth were trained in a profession at the earliest possible date. In the end, particularly in the light of the age of Télé-Niger graduates, it seemed preferable to provide a more fundamental, non-specialized preparation: one which would prepare the children equally well to enter training for a large number of careers and one which developed flexibility of thought and action rather than narrow and rigid acquisition of a certain set of facts and skills. The directive to "ruralize" teaching was not seen as contradictory to such basic education.

It was decided that the economic and social development of Niger would not be best served by the creation of a system of education reserved for a class of children who are pre-destined to become farmers. "Ruralized teaching" referred not to specifically agricultural content but to content generally concerned with the larger ruralenvironment. As such, the directive also did not imply merely adding another discipline of study to the reading, writing, and arithmetic curriculum of primary education. Learning a few agricultural notions and putting them into practice in a school garden, for exanple, was vehemently rejected as the

means of answering this directive. Healthy valuation by the child of his (her) rural context would not necessarily result from learning how to grow bigger squash. As it was, the researchers often felt that the youngsters became somewhat isolated from their villages when they attended the television school. This is understandable, since the school setting broke in several significant ways from village customs. In the television schools, the sexes were not rigorously separated, and the children were encouraged to ask questions. The research directors of the project deemed it preferable to have the children reintegrated into community life after school hours, practicing, if they were so disposed, the trades and activities of their parents, which were by definition rural.

While the importance of drawing examples from the child's own world was never denied, "ruralization" of teaching could not be accomplished merely by illustration. The objectives of formal African schooling in terms of basic skills were maintained while linking intellectual learning to familiar concrete situations. In addition, "ruralized" education tried to create the desire to learn, to emphasize the value of the traditional context, and to foster an openness to the world as a whole. In short, "ruralized" education aspired to be a total system of learning for creating an intellectually sophisticated rural man.

Given what "ruralized" education should and should not be, by what means can it be kept on the right track? In re-evaluating their work to date in the light of this more precise directive, the researchers felt as if the dark path they had been groping along since the beginning of the project was suddenly illuminated. "Ruralized" education called for the adoption of teaching methods which paralleled the characteristics of rural children. Particularly suitable was the concept of an active education with its reliance on the development of

perceptual abilities through studying natural phenomena. Likewise underscored was the importance of providing basic language, mathematical, and reasoning skills, particularly as they could be developed through observation of and reflection on the context of rural life.

In essence, the meaning of the world in which the child lived was to be preserved and clarified by using the familiar to illustrate the strange (school learning). Then, what was formerly strange would be used to come to full knowledge of what was originally presumed to be familiar. In effect, the child's "milieu", which had been the reference point for the acquisitions (of the French language, of basic numerical skills, etc.) of the first two years of the televised program of study, in the last two years could become the focus for molding a dynamic intelligence: what had been the means of teaching now became the object of study.

> In effect, it was necessary to avoid cutting the child off from his environment, as is too often the contribution of African schooling, and, on the other hand, to avoid enclosing him with an excessive, inverse tendency, but rather to teach him to observe his surroundings, to objectify them, to prepare him to see his own environment in relation to other environments, in short, to give him the intellectual means to understand, and finally, to transform it. (Rapport General, p. 159).

"Ruralized" education was to place value on traditional culture without locking the child within it, and simultaneously, to promote recognition of the modern world without forcing the child to accept it as his (her) own. These children hopefully would become "backyard pioneers" and "basement inventors." They were to be taught how to analyze the world in which they lived, to respect what was common practice without fearing to question it, and to innovate where they felt the need for change. In short, they were to develop a sense of control over their world.

The importance of class projects in furthering these ends cannot be stressed too heavily. Knowledge of matter and its responsiveness to different tools is the basis of technological development. Through the manipulation of materials, the child's creativity can be fostered. Acceptance of one's own creative nature brings with it acceptance of the creative nature of others. In the recognition of man's inherently creative nature rests the openness to innovation: aesthetic, practical, social, and so on.

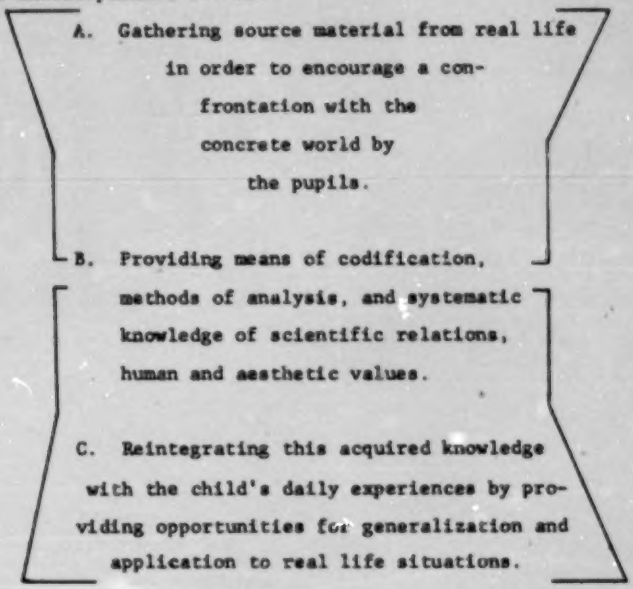
What is integration and what are its implications?

To the personnel of Télé-Niger, achieving an integrated program of study was the ultimate goal. "Integration" refers to the notion that the elements and the whole of a given system derive meaning in their relation to one another. In order to organize teaching, particularly via the television medium, it was necessary to analyze and break up each conceptual notion into its elements and then elucidate the relationship of these elements.

While the progress of each "discipline" itself had to achieve an integration, equally important was the attempt to achieve cross-disciplinary integration. The program producers constantly asked themselves if the implicit object of a French broadcast could be a preparation of the vocabulary needed for the development of a certain arithmetic concept which, itself, fit into the understanding of a certain phenomenon in the environment being presented in a geography broadcast, for example.

In the first two years of the television cycle, integration was achieved largely through "diversified repetition"; by the third year it evolved naturally into a "teaching unit" approach to phenomena in daily life. Since the efforts of the "disciplines" were so often coordinated, building up the background which was necessary to understand complex facts was accomplished over a very short time.

Schematically, the model of education provided by Tele-Niger takes the form of a "double funnel" in which school and life were given interdependent status:


A. Gathering source material from real life in order to encourage a confrontation with the concrete world by the pupils.
B. Providing means of codification, methods of analysis, and systematic knowledge of scientific relations, human and aesthetic values.
C. Reintegrating this acquired knowledge with the child's daily experiences by providing opportunities for generalization and application to real life situations.

Typically, formal schooling concerns only the thought processes represented by the narrow center (B) of this "double funnel" design. By equating the entire "double funnel" with schooling, both the input and output of this innovative system lay outside of the domain of the regular African classroom. Both the means by which the formal thought patterns were clarified and understood, and the reason for their incorporation into the child's cognitive structure were based in the reality of the child's everyday existence.

Mathematics, science, manual activities, spoken language, reading, etc., all are integrally related and equally necessary to the understanding of contemporary life. The child had to realize that learning arithmetic, for example, had very little merit unless it was useful in his (her) life. Integration also implied a meshing of school and life. We have previously

discussed how Tele-Niger incorporated class projects to this end.

Finally, integration of the personnel creating the broadcasts was critical. The reading specialist had to be aware of the vocabulary which had been developed in the French lessons; the arithmetic specialist had to be responsive to the needs of the specialist teaching science, and so on. One broadcast fed into the next, giving a sense of harmony to the entire school day. But this necessitated careful group planning and distribution tasks. The overall effect was to immediately situate each acquired fact or idea in both an internal (intra-scholastic) and external (extra-scholastic) context. The meaning of each element became clear in its usefulness to the whole which it was helping to construct.

THE RESULTS OF THE EXPERIMENT

Télé-Niger has never been subjected to the type of rigorous, independent evaluation which would allow one to judge its overall effectiveness. This is not to say that Télé-Niger has never been scrutinized by independent observers. By 1971, there were at least five published documents by external groups reporting small-scale studies and observations of the project.[3]

The in-house research which was performed was truly formative -- directed at elucidating specific points of concern for production and uncovering successes and failures of the system as it evolved. The research-production team of the project certainly realized the importance of general evaluation. During the colloquium at Grigny held in 1967, they tried to set forth an appropriate model of evaluation for this project. But, by their own admission, they opted out of actually executing a large-scale evaluation, citing such reasons as the lack of a comparable control group, the never ending production demands for new program material and the revision and remaking of old programs.

Most likely, however, the lack of a large scale summative evaluation was due to the predilections of this particular working group. Again by their own admission, research was always subservient to production (thus taking the form of formative evaluation). In addition, there was the peculiar organization of the working group.

As has been indicated, there existed no real separation of research and production duties. The same people who were under the considerable pressure of readying day after day of broadcast material and its accompanying documentation for classroom utilization were to plan and execute evaluations of the project as well. To be sure, the formative research conducted under such working conditions yielded information of critical import to the steady improvement of the broadcasts and aided in the elaboration of the theoretical underpinnings of the project. The ethnological

descriptions of the culture and life in the village, the surveys of adult and child opinions about the arrival in their communities of the television school, the study of how the African child decodes the pictoral image, the interviews of the school children with regard to how they are reconciling school and community knowledge -- all are research gems, completely responsive to production needs. The light feedback of the children's own written exercises and the daily classroom observations kept the team constantly in touch with the immediate impact of its efforts. However, in the daily shuffle of one twenty hour working day after the next, the time needed for an objective overall evaluation of the project was not available.

A thorough evaluation should have considered the objectives stipulated by the Nigerien government as well as their realization by the French team. As directors of the project, ultimately responsible to the officials who brought them to the scene, these researchers did not feel free to do this. One senses their hesitations, for example, about conducting all teaching in French, albeit that French is the official language of Niger. Such doubts as this they put aside by treating the directives of the Nigerien government as "givens" of the problem. While this course of action is appropriate when directing a project, it becomes inappropriate when evaluating one.

A model for evaluation. In attempting to plan an evaluation procedure for Télé-Niger, much discussion apparently revolved around the difficulty of the enterprise. In the eyes of these researchers, the fact that the project did not merely introduce an innovative method or two into an already existing system, but rather created a completely new system -- innovating objectives, method and content at once, left them no points of comparison with the traditional approach to schooling in Niger. That is, they ultimately denied the appropriateness of using formal schooling as a control group for television schooling.

They likewise rejected an evaluation internal to the project itself based on an assessment of how well initial objectives had been met. From their point of view, the objectives were incompletely formulated at the outset and were articulated in response both to external directives and internal evolution of the project. Conducting an evaluation comparing the outcomes to stated objectives of the project would be analogous to running an experiment with a constantly changing set of hypotheses. Moreover, a decision to evaluate on the basis of realization of objectives immediately posed another dilemma: the extent of success or failure of the project is measurable only in a longitudinal research framework. Assuming Télé-Niger pupils became fluent in French, learned to reach, performed basic calculations accurately, could express themselves sensitively in written French admittedly replete with grammatical and spelling errors, and evidence a limitless intellectual curiosity -- all of which are true -- will these successes last one year, five years, fifteen years after these children leave the television school? Moreover, and more importantly, if these acquisitions are retained, will they promote successful adaption to a rapidly changing environment?

In the light of these concerns, and more specifically as a result of too little time, evaluative research by this team took the form of reassessing the "feedback" collected constantly at the center. This technique likely served as the basis for the historical accounts summarized by this report. From all indications, the analyses of this existing body of data remained, no doubt out of necessity, descriptive.

A second evaluative approach of intervention at the end of each school year was also utilized. The pivotal concern of this type of evaluation procedure surpassed mere tests of achievement and relied on the unstructured expressions of the children themselves in their writing or in interviews sensitively conducted

by the research team. In essence, qualitative rather than quantitative methods of evaluations were preferred. The team also favored an assessment of the "total child" rather than the school child. More important than how much scholastic information the child retained was how these African students reconciled or failed to reconcile the two drastically different portrayals of the world provided by traditional culture and the new school environment. Ultimately, successful adaptation to this dilemma was seen as predictive of successful adaptation to the situation of life in a rapidly developing nation. The researchers seemed to conceive of their project as a microcosm of Niger's problem. If the children could be guided into successful synthesis of school and community, they could, theoretically, cope with and react creatively to, the changing environment into which they were born.

Positive results. All of the preceding discussion does not imply that Télé-Niger as it existed in 1970 is devoid of definitive conclusions. It can be stated with certainty that a primary school for African children can be developed which utilizes television teaching and minimally trained classroom monitors (by comparison to the schooling needed to train an actual teacher for a traditional primary school system). Moreover, Télé-Niger shows that the transmission of those fundamental skills which are commonly held as part of primary education do not suffer from this method of transmission and that development of the child's personality and freedom of expression is stimulated.

It can also be asserted that Télé-Niger was not plagued by the same problems which hounded the traditional school system in Niger: high student absence, high repetition of grades, and high dropout rate. Using the principles of programmed learning to structure the course of the broadcasts seemed to have the effect of equalizing what was learned despite the normal differences in aptitude of the students in the television classes.

There was no demonstrated need to hold a student back: all passed more or less satisfactorily through the course of study as it was paced. Also improved by the television school was the dropout rate which approached 40 percent in the regular primary school system. Of the original 716 ETV students in 1966, 674 finished the four year cycle in 1970 (an attrition rate of less than six percent).

The children apparently loved to come to school, often arriving early to watch the early morning broadcast directed at the monitors. It happened more than once that students would arrive at school and follow the day's programming even when their monitor was absent (which, by the way, happened very rarely). This occasional event prompted a week-long experiment of unmonitored reception. Nothing in the students' words or actions led the research team to believe that either they, or their parents, would have preferred a school situation without the monitors. However, with a vision toward expansion of the system via satellite, the possibility of creating schools without monitors was tested.

Monitors were informed of the plan, and agreed to it without any signs of feeling threatened by the proposal. During the actual experiment which occurred in June of 1971, a week-long training session was held for the monitors in Niamey. Villages were consulted and gave their consent and informed cooperation. The week's course of activities remained essentially unchanged, except that the programs were modified to incorporate a greater number of more explicit directions regarding what type of work should be done. The progress of each class was followed by scheduled observations (also common practice when the monitors were present).

The outcomes were very positive -- not one broadcast was missed; all the work was accomplished; there was no loss of interest; degeneration of classroom did not occur; no equipment

was broken; no interventions of any sort were required. In short, it was business as usual. The children were very proud of their success, but expressed a preference for school with a monitor, someone who could explain what they didn't understand, and above all, an adult with whom they could talk.

Télé-Niger succeeded in integrating the child's environment into his (her) school life -- an accomplishment not often achieved in the so-called developed nations. The extreme separation between school and life, particularly noted in systems of education in Africa, was not nearly so apparent here. In addition to gaining a freedom of expression with regard to their own environment, the pupils of Tele-Niger also evidenced a developing realization of the relativity of their own ideas and ways of living.

In the end, the researchers felt that Télé-Niger succeeded in creating an atmosphere of learning as defined in the UNESCO report: Program of education television -- 1968-1980. In this report, four principle characteristics of televised education were noted: 1) The content of teaching was made local, even if the language of the teaching was foreign. 2) The content was programmed such that the children would progress not merely from ignorance to knowledge, but more importantly, from a conventional to a liberated view of the world. 3) The project successfully exploited the richness of the television medium to its best pedagogical advantage. 4) The project succeeded in using people with little scholastic training as classroom monitors. (Rapport Général, p. 226).

To be sure, there were many areas in which Télé-Niger was not so successful -- as will be summarized in the subsequent section. However, the creators of Télé-Niger viewed television as an extension of the child's natural curiosity. In point of fact, the lesson of Télé-Niger lies in this notion: learning takes place in the child not in the medium. Whatever the

diffusion technique employed by the school program, be it an individual teacher or a mass medium, education must be lived learning.

Limitations. At the end of the four year cycle, the television pupils had developed a desire to learn and some of the basic skills necessary for continued learning. However, the project directors hardly considered them ready to enter the traditional secondary school. While these students had no fear of expressing themselves either in speech or writing, they did so at a level inferior to that required for success in secondary school. Their knowledge of mathematics remained more limited than what was normally covered in the traditional primary school. More importantly, in the four year course of television study, work progressed collectively, with no individual grades given or comparisons between students in the same class made. On the other hand, while not prepared to enter secondary school, they were also too young to be reinserted in their surroundings without risking the loss of the behaviors so carefully constructed by the school experience.

In response to these concerns, the producers created a fifth year of instruction with the dual function of preparing a few of the better students to pass into the traditional secondary school and solidifying the formation of the other pupils for whom this year of schooling would be the last. As it turned out, this boiled down to an attempt to bring a better balance to the televised course of study by giving the needed emphasis to mathematics and formal French. The end of this fifth year was marked by an examination to determine which students were to continue into secondary school.

170 students of Télé-Niger were accepted into secondary school, and grouped into separate classes. Caught off-guard, the uninitiated African teachers were unprepared for this new type of student who bombarded them with questions and refused to

be daunted by the typical classroom sanctions. A situation of crisis rapidly developed, demanding frequent interventions from the staff of Télé-Niger and ending with a full quarter of the students being required to repeat the first year of secondary school. After this initial year, the traditional teachers finally grasped the situation and began to respond more sensitively to these students. However, the base of the crisis really lies in extreme differences of philosophy between the two systems of schooling -- and will be but superficially solved until television school and traditional school are formally meshed in some way.

As for the students who were not allowed to enter secondary school "it is doubtless unnecessary to describe the difficulties of their situation which was the frustrating one of a "Paradise Lost"; one can easily imagine all of the psychological and social tensions arising from their situation. . ." (Rapport Général, p. 231). In short, the goal of achieving an intellectually sophisticated but happy rural man was not a resounding success story.

General Lessons

1. One of the most important lessons from Télé-Niger is the impact of a tightly-knit team of seasoned foreign experts upon project design. Rather than import a pedagogical philosophy, the team elaborated its theory through the experience of producing programs, observing student reaction, and defining a classroom atmosphere. The result was a sensitive merger of stipulated goals, situational constraints, qualities of the selected medium, and characteristics of the audience.

To be sure, the team was highly experienced prior to their assignment to this project. As a result, they came to their task with a sophistication which crystallized in action. Decisions were made rapidly, and put immediately into practice. With a less experienced team, this approach might have led rapidly

to a situation of complete chaos. But in the present case, the program producers were simultaneously doing background research and formative evaluation in the field. Close contact with both the goals and the results of their production efforts was maintained due to the dual nature of the duties of the team members. The task of steering the project along a general theoretical framework was performed by the same people who were creating the programmatic fuel which kept the project moving. Thus, the importance of formulating a working philosophy which would provide the credo for unified teamwork was never forgotten. In the search for solidarity of the group, responsibility and credit for each program were always shared by the team as a whole. In terms of program production, anonymity within the group was preserved. In this way, interdependence of the members of the team was continually encouraged. To the extent that Télé-Niger was successful, credit seems to lie in the creativity, sensitivity and dedication of its research team.

The upper levels of the team were staffed entirely by French nationals. Although the technical supportive staff, television teachers, and classroom monitors were drawn from the local population, the intrusive potential of this wholesale importation of the project's decision-makers was a constant danger. Fortunately, the team itself was sensitive to this very problem. As one member of the team has written: "The dual commitment to be efficacious and at the same time to respect the independence of the host country was difficult to maintain." (Pedagogical Research, p. 2). Since their pedagogical philosophy required that the child's daily life be completely integrated into the school program, the team was forced to admit its lack of first-hand knowledge of the life and culture of the people of Niger and work continually to overcome it. Lacking past experience with any of the five subcultures of Niger, the French team directed much of its effort toward researching the daily

lives of the children so that the cultures and values of the people could be incorporated into the television programs.

2. A similarly important lesson from Télé-Niger is the recognition of television as not just a method of diffusion but as a real influence on the type of education which could be developed. Though not reaching a McLuhanesque extreme, the team considered the medium to have certain pedagogical leanings which had to be considered and utilized to advantage. First and foremost, television called for a pedagogy which aroused and directed the child's natural curiosity about the world. The medium transmits a concrete visual message -- whereby the audience can be shown what is being talked about. Even though program producers have complete control over what is shown, the television audience can be made to feel that they, themselves, have discovered something about the world. The medium, when well used, is an attention grabber and powerful motivator. Because of the great variety of audiovisual techniques available to the medium, television allows one to begin with a concrete image and proceed either to simplify and schematize that message or embellish and enrich it. By repeating the same material in diverse audiovisual treatments the audience is given many ways of learning the same information while saving from boredom those in the audience who understood the message the first time it was presented. Because videotape equipment is so portable, recording of real life events is simplified. Because the final product is a lifelike, moving image, it can be used to present "good models" for the child audience to imitate -- be these simply behavioral models (i.e., French pronunciation) or attitudinal ones (characters who are excited about learning and willing to seek new information before making up their own minds). In short, the dramatic and technical resources of television push one naturally into the format of an "educational variety show" -- a spectacular aimed not at amusing, but rather teaching its audience.

3. A final lesson to be learned from Télé-Niger encompasses a dilemma which confronts any attempt at educational reform. In order to develop creative solutions to educational problems, an experimental project requires a certain degree of autonomy and freedom from convention. On the other hand, an experimental project must also aim to develop practices which will be acceptable to the larger educational system at some point in the future. Therefore, there is a danger in becoming too marginalized from current educational practice. The slow evolution of Télé-Niger from a pilot project to a major project of the Ministry of Education gives some indication of the difficulty of walking the tightrope between autonomy and marginalization.

Many benefits were derived from giving the initial research team nearly complete autonomy of decision-making. Free hiring practices allowed the project director, Max Egly, to build up a harmonious working group notable for its solidarity and dedication. Unfettered by requests to pacify one interest group or another, it was possible to choose the most promising Nigeriens for training as technical assistants, television teachers and classroom monitors. As such, it became almost unnecessary to break old habits and opinions of the staff. Rather, full time could be devoted to building up new habits and opinions which would be consistent with the methods and values of the project. Unencumbered by rigid timetables for complete staffing of the project by Nigerien nationals, it became possible to advance the project while simultaneously training the inexperienced members of the staff. Autonomy from the existing educational system in Niger allowed this project to move toward truly innovative schooling unencumbered by a rigidly defended past history of common practices and tightly held values.

Yet this autonomy was not without its drawbacks. It is ironic that while Télé-Niger's pedagogical philosophy stressed

integration of the pupil's school experience with daily life, the project failed during those years to integrate itself into the larger formal educational system. While attesting to the project's innovative nature, this fact posed severe difficulties for pupils who completed the four year cycle of television school. They were certainly not equipped academically to enter directly into secondary school but even more basically, they were unprepared to deal with the typical classroom situation of traditional schools. Nor were the children who finished the television cycle (normally by the age of 11 or 12) ready to enter professional training. Upon finishing television school, the pupils were given neither a diploma attesting to their accomplishments nor assurances of finding a place for themselves in further education or in the job market. From the point of view of their parents, in particular, this drastically reduced the value of attending the television schools.

The failure of Télé-Niger to integrate itself into the traditionally administered system was excused during its pilot stage as a means of avoiding the inevitable clashes between two vastly different, even antithetical, approaches to education. As long as Télé-Niger remained small-scale, it appeared unthreatening. But the researchers themselves feared that the proposal to expand the project to a national scale would bring forth the hostilities and fears, heretofore held in check, of educators in the traditional system.

Update 1976

Five years have passed since the period covered by the document La Television Scolaire du Niger: 1964-1971. As such, this summary report unavoidably becomes a cliff-hanger: the reader is no doubt wondering what has happened since then. In a very real sense, it is unfair to leave Télé-Niger in its 1971 state for at that point it was reaching a mere one percent of the population for whom it was created.

By reference to a recent article ("Télé-Niger: des dimensions modestes" Direct, September 1975, pp. 15-49), it is possible to list, in skeletal form, a number of events which have taken the project beyond the experimental stage:

June 1972: The first research and production team returned definitively to France.

January 1973: The development of an experimental series of 18 television programs broadcast in two local languages was initiated. Three programs were to be devoted to teaching the audience how to read the televised image; eight programs essentially concerned topics of agriculture and sanitation; six programs were aimed at promoting literacy; and the remaining was a program of evaluation.

January 1974: The first large expansion of Télé-Niger found primary school curriculum being received in 122 classes attended by 5000 pupils over an area of 200 kilometers around Niamey.

January 1975: A second expansion was marked by the opening of 93 new classrooms. This increased the number of students attending television schools to 9000. Of the new classes, 50 were opened in Niamey proper, thus ending the completely rural reception of the programs and opening the possibility of direct conflict with already existing traditional primary schools for the first time.

June 1975: For the first time, direction of the production center was assumed by a Nigerien. Construction of relay stations to other regions of the country was begun with further expansion of the system inevitable.

Of course, the above events raise a multitude of questions which go beyond the mandate of this report, and which must be left to future researchers and writers. Nonetheless, the above indications of expansion and acceptance of Télé-Niger which suggest that even educational reforms which begin with complete autonomy need not remain forever marginalized from regular educational practice.

FOOTNOTES

1. The present text is based primarily upon the Summary Report (Rapport Général) with supporting material drawn from the following documents (although available only in French, these titles have been translated into English by the author for the ease of the reader):

   The School and Television (A. Bienfait)

   Ecology (J. Bisilliat)

   The Children and Television (J. Bisilliat)

   Case Study of a Television Classroom (E. Pierre)

   The Image and Television (B. Blum)

   Integration (A. Bienfait)

   The Monitors (A. Bienfait)

   Pedagogical Research (A. Bienfait)

   The Children's Representation of Man and the World after the Fourth Year of Schooling (E. Pierre)

   Practical Work (A. Bienfait)

2. The English reader is cautioned not to confuse Nigerien which refers to the people of Niger and Nigerian which refers to the people of Nigeria.

3. 1967: Modern Teaching Methods, Taking Into Account Several Experiments; Institut International pour la Planification de l'Education (available in French)

   1969: Report of the Evaluating Teams of Educational Television in Niger, Salvador, and the Samoan Islands. Volume III of the Program of Televised Education -- Republique de Cote d'Ivoire (available in French)

   1969: Perspectives for Expanding Educational Television in Niger, P. Maes, F. A. C., Paris (available in French)

   1969: Niger -- Educational Television, UNESCO (available (in French)

1970: Republic of Niger -- A Preliminary Report on Innovation of Education. UNESCO-BIRD (available in English)